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Texas Dept. of Water Resources, Austin

Prepared for

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16. Abstract (Limit: 200 words)

This Appendix H includes the information resulting from a survey of public opinion concerning the water quality of the surface waters of Austin, Texas, and an analysis of the results obtained.

17. Document Analysis a. Descriptors

Hydrology
Urban development
Watersheds
Water pollution
Water resources
Sedimentation
Storms
Regional planning
Urban planning
Civil Engineering

b. Identifiers/Open-Ended Terms

Runoff
Streamflow
Stream pollution
Rainfall
Snowmelt
Soil Erosion
Water Quality
Sediments
Sediment Transport
Suspended Solids
Storm Drains
Urbanization
Land use

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City of Austin

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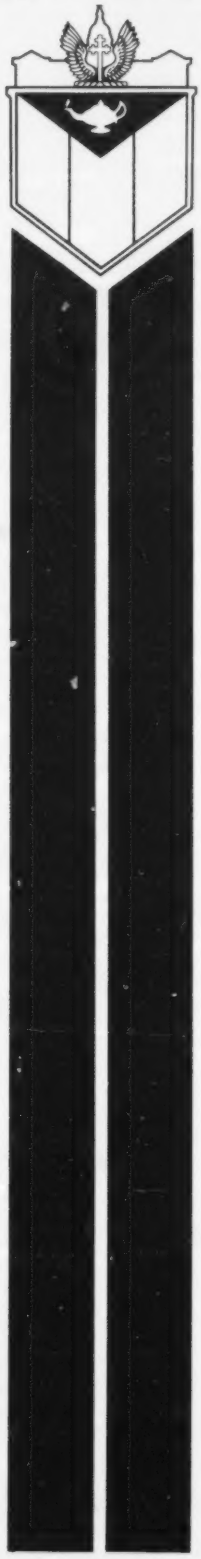

APPENDIX H - PUBLIC PARTICIPATION
NURP PUBLIC OPINION SURVEY

Addenda to the NURP Final Report

Austin, Texas

NURP PUBLIC OPINION SURVEY

Summary and Conclusions

Prior research has shown that public perception of the "water quality problem" plays an important role. Only if the public perceives a problem, can governments be reasonably expected to take corrective action. As stated in a 1974 water quality survey in Atlanta, the difference between "public perception of the severity of the problem and the tolerable level for the problem serves to drive the system."

In summary, the 1982 survey of attitudes toward water quality in the Austin area reveals that:

1) The water quality problem was considered serious or somewhat of a problem by a majority of the registered voters for both surface water (68%) and ground water (59%).

2) By a 2:1 ratio, the respondents felt that"development/ construction" was the major source of pollution and contributed "a lot" to the problem.

3) The majority of respondents identified either bacteria (30%) or nutrients (22%) as the most significant types of pollution in the Austin area.

4) By a greater than 2:1 ratio, the respondents felt that legal restrictions were preferable to either voluntary compliance or tax and monetary incentives for protecting urban water quality.

5) Approximately 2/3 of the registered voters would be willing to pay $.50 - 1.00 per month for water pollution cleanup.

6) Three to five times as many respondents felt that the polluters should pay with regard to pollution caused by septic systems and development/construction. Pollution from streets was seen to be the main responsibility of the utility users (general public).

7) Of the water bodies listed, all were perceived by a majority to be either very or somewhat polluted. The cleanest was perceived to be Lake Austin, the most polluted was perceived to be Shoal Creek.

8) 72% of the registered voters use Austin's lakes and creeks to some degree. The one used most often was Lake Travis, followed by Lake Austin. Over half the people either swim or boat, with the main recreational activity being swimming by a large margin.

One of the important facets of the data dealing with recreational activity was the indication that such a large percentage (56%) of the respondents either swim, ski or fish. Forty-four percent of the respondents participate in some form of contact recreation (36% swim and 8% ski). Twelve percent of the respondents fish in area water bodies, and as such, would have aquatic life concerns.

Demographics

Table 1 was prepared to show how the NURP demograhics compared to other recent polls using registered voters. All were well within reported ranges except for the reported upper and lower incomes. Income is typically one of the least reliable variables for self reporting.

In summary, 61% of those interviewed had lived in Austin 10 years or more; 47% were under the age of 35; and 72% either had some college or were college graduates (44% college graduates). With regard to ethnicity, 82% were white, 8% black, and 7% Mexican-American. The sex demographic was divided in the traditional 50/50. The socioeconomic status (SES) indicates that the plurality of voters are medium (45%); 39% are high or very high; and 15% are low. Approximately 9% of the voting population makes under $10,000, and approximately 10% makes more than $50,000.

Most of the registered voters were located in the north (18%), central (17%), west/northwest (16%), and far south (15%). If the registered voter population is seen as being divided into east, west, and a north-south corridor, 26% are east of IH-35, 21% are west of MoPac/South Lamar, and 50% are in the north-south corridor.

It is difficult to generalize, but young women (under 35), with a high SES and 2-10 years residency, either Anglo or Mexican-American, and living in the central part of the City, appear to have the greatest environmental concern.

Informational Needs

Even though the vast majority of answers were consistent with the data, there were some discrepancies. The areas that people seemed misinformed about were in (1) development/construction was rated as a major problem, yet sedimentation was not perceived as the problem that it is in Austin. (2) Industrial waste discharge was seen as more of a problem than the situation indicates, and this was also true of chemical (toxic) pollution. (3) Barton Springs ranked too high in pollution in terms of what the data warrants, but this is understandable in light of recent newspaper headlines.

TABLE 1 - DEMOGRAPHIC PROFILE

PREVIOUS SURVEYS (Registered Voters)

	1/82 (%)	2/81 (%)	12/80 (%)	11/8 (%)	9/80 (%)	6/80 (%)	Average (%)	NURP 8/82 (%)
EDUCATION								
Less than high school	6	4	5	4	8	6	6	8
High school graduate	14	12	13	12	17	10	13	18
Vocational/technical	2	2	3	1	3	2	2	2
Some college	27	32	32	34	28	31	30	28
College graduate	47	47	45	45	43	45	45	44
Refused/no answer	3	1	2	3	2	4	3	1
ETHNICITY								
Anglo	81	80	81	80	80	NA	80	82
Black	8	9	7	6	8	NA	8	8
Mexican-American	8	8	10	10	10	NA	9	7
Other	2	3	3	4	2	NA	3	1
Refused	2							2
AGE								
18-24	15	20	19	23	17	NA	19	20
25-34	28	38	35	34	34	NA	34	27
35-44	17	16	13	13	13	NA	14	17
45-54	13	10	14	12	16	NA	13	14
55-64	11	8	9	7	10	NA	9	12
65+	14	7	9	9	9	NA	10	9
Refused	2	1	1	2	1	NA	1	2
INCOME (Thousands)								
Less than 10	17	19	23	24	18	19	20	9
10-15	10	16	17	17	17	21	16	8
15-20	11	14	13	11	16	15	13	12
20-25	10	15	11	10	9	10	11	12
25-30	10	7	10	9	11	9	9	10
30-40	15	10	9	7	10	6	10	13
40-50	6	6	2	5	5	4	5	9
More than 50	9	4	4	4	6	5	5	10
Refused/didn't know	14	9	12	13	11	10	12	18

j.c

These findings would seem to clearly show the importance of timely dissemination of accurate information about water quality to the public. From previous studies, the most important media would appear to be television and newspapers, in that order. Field trips (familiarization tours) should supplement the mass media coverage, because of the relatively more powerful impact of this kind of direct exposure.

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Opinion Analysts, Inc.

NATIONAL URBAN RUNOFF PROGRAM

PUBLIC ATTITUDE SURVEY

AUGUST, 1982

i.e

INTRODUCTION

This report summarizes the results of 1000 interviews with registered voters in Austin, Texas. Under the direction of Opinion Analysts, Inc., interviewing for this survey began Monday, August 2, and concluded Wednesday, August 11, 1982. All interviews were conducted by the trained, professional interviewing staff of Capital Field Service, a subsidiary of Opinion Analysts, Inc.

The principal objective of this survey was to assess attitudes of citizens of Austin toward the existing level of water quality in the area, sources of any perceived water pollution problems, the relative significance of various potential environmental problems including water pollution, and financing of remedial actions. Demographics and questions concerning use of Austin's lakes and creeks were included for purposes of analysis.

The survey questionnaire was developed by David Pimentel of the Watershed Management Division, Department of Public Works, for the City of Austin, and by Jeffrey A. Smith for Opinion Analysts.

Persons having questions regarding this survey report should contact:

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SURVEY ACCURACY

When a survey is based on a random sample of a given population, it is possible to generalize the survey results to the entire population with a known degree of statistical accuracy. Survey accuracy is expressed probabilistically, that is, for a particular "confidence level." The reliability of survey research is normally measured at the 95 percent confidence level.

At a given confidence level, survey reliability varies with sample size and with the proportion giving a particular response. The more people answering a question -- regardless of the size of the entire population -- the greater the reliability. And, as the proportion giving a particular answer moves in either direction away from 50 percent, the confidence we have in the survey responses increases. The table below shows how the degree of statistical accuracy varies with sample size and proportions:

STATISTICAL ACCURACY AT 95% CONFIDENCE LEVEL

PROPORTION GIVING ANSWER	Number of Respondents							
	50	100	150	200	250	400	600	1000
50%	14.0%	9.8%	8.0%	6.9%	6.2%	4.9%	4.0%	3.1%
40%, 60%	13.7%	9.7%	7.9%	6.8%	6.1%	4.8%	3.9%	3.0%
30%, 70%	12.8%	9.0%	7.4%	6.4%	5.7%	4.5%	3.7%	2.8%
20%, 80%	11.2%	7.9%	6.4%	5.5%	5.0%	3.9%	3.27%	2.5%
10%, 90%	8.4%	5.9%	4.8%	4.2%	3.7%	2.9%	2.4%	1.9%

The figures in the table define the 95 percent confidence interval around a particular survey result. Thus, for example, if 600 people selected at random from some population were interviewed, and 300 (or 50 percent) of them gave response X, we could be 95 percent sure that between 46 percent and 54 percent (50 percent +/-4.0 percent) would give that response if the entire population were interviewed. To put it another way, there is only one chance in 20 that the survey results vary by more than 4.0 percent in either direction from the true population proportion. It is important to remember that the best guess, or the most likely true population value, is the actual survey result.

In analyzing survey data, it is often useful to compare the results for subgroups of the full sample. A good rule of thumb to use in deciding whether the difference between two groups is significant, or whether the variation is merely the result of random fluctuation, is to compare the percentage difference between the two groups to the sum of the confidence intervals around the results for each group separately. If the difference is roughly as large or larger than the sum, the difference is statistically significant. For example, if 200 men and 200 women are interviewed, and 40 percent of the men say X while 60 percent of the women give that response, there is a 20 percent difference between their answers. This would be compared to a 13.6 percent figure which represents the sum of the 95 percent confidence level variations for samples of 200 (see table above). The difference is thus meaningful, or in other words, we can be at least 95 percent sure that there is a real difference between the opinions of men and women on this question.

In actual practice, survey results are usually somewhat better than is indicated by the 95 percent confidence level sampling error estimates. In fact, the average error due to sampling variations is only about one-third of the 95 percent confidence level error.

Of course, it should be noted that these estimates represent only the sampling error, that is, the variance between survey results and the true population figures which result from the fact that only a sample has been interviewed rather than the entire population. Additional variations can be expected to result from other sources, including sample bias, interviewer error, or failure to communicate. Such errors, however, are not readily subjected to analytical treatment.

THE 1000 INTERVIEWS INCLUDED IN THIS SURVEY SHOULD PRODUCE ESTIMATES OF POPULATION PARAMETERS ACCURATE TO WITHIN 3.1 PERCENT AT THE 95% CONFIDENCE LEVEL. ALL SURVEY RESULTS, HOWEVER, DEPEND ON PROBABILITIES, AND NO WARRANTY IS OR CAN BE MADE FOR THE ACCURACY WITH WHICH THE SURVEY RESULTS PRESENTED HEREIN REPRESENT THE UNIVERSE OF REGISTERED VOTER HOUSEHOLDS IN THE CITY OF AUSTIN.

CROSS-TABULATION CATEGORIES

Throughout this report, survey responses are reported for the categories of respondents defined and designated below:

ALL RESPONDENTS	The responses of all 1000 respondents to the survey, representing all of the voters in Austin, Texas.
RESPONDENT'S AGE	
18 to 24	Respondents 18 to 24 years old.
25 to 34	Respondents 25 to 34 years old.
35 to 44	Respondents 35 to 44 years old.
45 to 54	Respondents 45 to 54 years old.
55 to 64	Respondents 55 to 64 years old.
65 & Over	Respondents 65 years old and older.
SEX	
Male	Male respondents.
ETHNICITY	
Anglo	Anglo or white respondents.
Black	Black respondents.
Mex-Amer	Mexican-American respondents.

YEARS IN AUSTIN AREA

One or less	Respondents who have lived in the Austin area for one year or less.
2 - 4 Years	Respondents who have lived in the Austin area for two to four years.
5 - 9 Years	Respondents who have lived in the Austin area for five to nine years.
10 or more	Respondents who have lived in the Austin area for ten years or longer.

RESPONDENT'S EDUCATION

Hi School or Less	Respondents who have no formal education beyond the high school level.
Some College	Respondents who have attended college, but have no college degree.
College Graduate	Respondents who have a college degree.

RESPONDENT'S HOUSEHOLD INCOME

Under $15,000	Respondents whose total annual household income is under $15,000.
$15-25,000	Respondents whose total annual household income is $15,000 to $25,000.
$25-35,000	Respondents whose total annual household income is $25,000 to $35,000.
$35-50,000	Respondents whose total annual household income is $35,000 to $50,000.
Over $50M	Respondents whose total annual household income is $50,000 or more.

SOCIO-ECONOMIC STATUS	Respondents who are classified as belonging to low, medium, high, or very high socio-economic status categories, based on their reported incomes and educations (see text).
GEOGRAPHIC AREA	Respondents whose voting precincts lie in the areas defined according to the "Geographic Breakdowns" section which appears elsewhere in this report.
WATERSHED AREA	Respondents whose voting precincts lie in the areas defined according to the "Geographic Breakdowns" section which appears elsewhere in this report.
MAJOR SOURCE OF WATER POLLUTION	
Industry	Respondents who think the major source of water pollution in the Austin area is industry.
Septics	Respondents who think the major source of water pollution in the Austin area is septic systems.
Developmnt	Respondents who think the major source of water pollution in the Austin area is development and construction.
Swg Trtmnt	Respondents who think the major source of water pollution in the Austin area is sewage treatment plants.
Streets	Respondents who think the major source of water pollution in the Austin area is urban streets.
Lawns	Respondents who think the major source of water pollution in the Austin area is the fertilizers and pesticides that people use on their yards.
Animals	Respondents who think the major source of water pollution in the Austin area is animal wastes.
Other	Respondents who think the major source of water pollution in the Austin area is something other than the above.

SOCIO-ECONOMIC STATUS

Socio-economic status is widely recognized as one of the most important demographic variables in attitudinal studies; there is far less agreement on how to measure it. Nevertheless, SES is a sufficiently valuable diagnostic aid that Opinion Analysts routinely includes it in each survey report.

Respondents to this survey have been allocated to one of four socio-economic status categories on the basis of reported family income and the education of the respondent or the head of household. The assignment of respondents to each of these categories is based on consideration of every possible combination of income and education categories and is too detailed to be reproduced in this report. Experience has shown this socio-economic status variable to be more effective in producing partitions of the sample into groups with distinct attitudes than either income or education as separate variables.

The allocation of individual respondents to the present survey into SES categories has produced the following distribution:

Low SES	15%	(151)
Medium SES	45%	(448)
High SES	21%	(208)
Very High SES	18%	(182)

Each of these groups constitutes a separate sub-group in the computer analysis attached to this report and elsewhere in the narrative.

Respondent Profile

Full Sample

Demographic Characteristics

	Proportion of Respondents	Number of Respondents
SEX		
Male	50%	500
Female	50%	500
AGE		
18 - 24 Years	20%	200
25 - 34 Years	27%	273
35 - 44 Years	17%	166
45 - 54 Years	14%	135
55 - 64 Years	12%	123
65 Years and Older	9%	87
Refused	2%	16
ETHNICITY		
White/Anglo	82%	823
Black	8%	81
Mexican-American	7%	68
Other	1%	12
Refused	2%	16

Respondent Profile

Full Sample

Socio-economic Characteristics

	Proportion of Respondents	Number of Respondents
TOTAL HOUSEHOLD INCOME		
Under $5,000	4%	38
$5,000-10,000	5%	52
$10,000-15,000	8%	80
$15,000-20,000	12%	115
$20,000-25,000	12%	121
$25,000-30,000	10%	104
$30,000-35,000	7%	68
$35,000-40,000	6%	60
$40,000-45,000	5%	49
$45,000-50,000	4%	36
Over $50,000	10%	102
Don't Know/Refused	18%	175
RESPONDENT'S EDUCATION LEVEL		
Less than High School	8%	75
High School Graduate	18%	181
Voc/Tech School	2%	17
Some College	28%	275
College Graduate	44%	438
Refused/No Answer	1%	14

Respondent Profile

Full Sample

Geographic Breakdowns and Residency

	Proportion of Respondents	Number of Respondents
GEOGRAPHIC AREAS		
Northeast	10%	102
East	8%	82
Central	17%	171
North	18%	183
West/Northwest	16%	165
Southwest	5%	53
South/Southeast	8%	79
Far South	15%	147
YEARS IN AUSTIN AREA		
One or Less	5%	50
2 - 4 Years	15%	148
5 - 9 Years	19%	188
10 -14 Years	16%	165
15 - 19 Years	11%	109
20 - 24 Years	9%	86
25 - 29 Years	5%	54
30 Years or More	20%	199
WATERSHED AREA		
Walnut Creek	12%	116
Barton Creek	3%	31
Shoal Creek	14%	135
Boggy Creek	7%	66
Waller Creek	4%	42
Williamson Creek	9%	88
Bull Creek	5%	48

GEOGRAPHIC BREAKDOWNS

For purposes of analysis, the following geographic breakdowns are employed in the analysis of this survey and as crosstabulation categories in the computer output section of this report:

AREA:	PRECINCT NUMBERS:
Northeast	121, 122, 130, 132, 134, 135, 138, 139, 140, 141, 213
East	123, 124, 125, 126, 128, 129, 423, 426, 427, 438, 439
Central	131, 136, 137, 145, 146, 147, 148, 235, 236, 320, 329, 331, 333, 334, 335, 3336, 337, 344, 345, 346, 445
North	142, 143, 144, 149, 150, 229, 233, 234, 239, 241, 242, 243, 244, 245, 248, 255, 257, 258, 259
West/Northwest	228, 230, 231, 232, 237, 238, 240, 246, 247, 249, 251, 253, 254, 256, 321, 326, 328,
Southwest	301, 322, 325, 330, 332, 342, 347
Southeast/South	324, 420, 421, 422, 424, 425, 433, 434, 437, 440, 442, 444
Far South	323, 327, 338, 339, 340, 341, 350, 441, 443, 446, 447, 448, 449, 450, 451
Walnut Creek	121, 122, 129, 134, 139, 141, 142, 211, 213, 229, 234, 242, 255, 257
Barton Creek	301, 311, 322, 325, 342
Shoal Creek	236, 239, 240, 243, 248, 320, 329, 331, 333, 334, 336, 337, 344, 445
Boggy Creek	123, 126, 129, 132, 133, 135, 426
Waller Creek	145, 146, 148, 337, 345, 438, 445
Williamson Creek	323, 327, 350, 441, 443, 446, 448, 450
Bull Creek	214, 231, 232, 249, 251, 253

SUMMARY RESULTS AND COMMENTARY

A. GENERAL ISSUES

Ratings of Environmental Concerns

> I'm going to name some environmental areas. For each one, please tell me whether you think there is a serious problem in that area, somewhat of a problem, or not much of a problem here in Austin. First,...

Austinites rated Litter as the most serious environmental problem locally, by a small margin over Surface Water Pollution. At the other end of the scale, Air Pollution is rated least serious of the seven potential problem areas tested in this series. Results for the full set of respondents are reported in Table I below.

Table I. Ratings of Environmental Concerns.
(All Respondents)

	SERIOUS PROBLEM	SOMEWHAT PROBLEM	NOT MUCH PROBLEM	NO OPINION
Litter	33%	41%	25%	0%
Surface water pollution	29%	39%	23%	9%
Groundwater pollution in aquifers	29%	30%	22%	19%
Transportation	26%	38%	30%	6%
Industrial waste disposal	17%	26%	37%	19%
Noise pollution	15%	35%	49%	1%
Air pollution	10%	35%	52%	2%

While thirty-three percent cite Litter as a Serious Problem, twenty-five percent take the position that it is Not Much of a Problem; forty-one percent rate Litter in the middle of the scale as Somewhat of a Problem. Surface Water Pollution is virtually tied with Litter among those holding opinions, but nine percent have No Opinion on this area.

The Somewhat position on the scale may be interpreted as a recognition of a problem without attaching the same urgency as to Serious Problems. Using this interpretation of the responses, the first four items on the list are considered to be problems by a majority of Austinites. These include Groundwater Pollution in Aquifers and Transportation, as well as Surface Water Pollution and Litter. Air and Noise Pollution and Industrial Waste Disposal are rated less Seriously by the full sample.

In general, younger respondents rate each problem area more seriously than older respondents, and women are more critical or sensitive than men. Those who have lived in Austin longer are only somewhat more concerned about each problem. There is no consistent pattern of concern by income, education or socio-economic status.

B. WATER QUALITY ISSUES

Sources of Water Pollution

> Next, I'm going to mention some things that may be sources of water pollution. For each one, please tell me whether you think that source contributes a lot, some, just a little or nothing at all to water pollution in the Austin area.
>
> What, in your opinion, is the major source of water pollution in the Austin area?

In the opinions of Austin's registered voters, Development and Construction is the major contributor to water pollution in the Austin area. Both the contributions to water pollution from various sources and the proportions naming each as a major source are reported in Table II below.

Table II. Sources of Water Pollution.
(All Respondents)

	A LOT	SOME	JUST A LITTLE	NOTHING AT ALL	NO OPINION	* MAJOR SOURCE
Development and construction	40%	34%	12%	10%	4%	* 24%
Urban streets	24%	38%	19%	12%	6%	* 12%
Industry	21%	35%	23%	13%	8%	* 11%
Septic systems	20%	32%	20%	12%	15%	* 5%
Sewage treatment plants	16%	34%	18%	16%	16%	* 7%
Fertilizers and pesticides	18%	29%	29%	18%	6%	* 2%
Animal wastes	14%	28%	30%	23%	6%	* 2%

Seven sources were tested in this series, with Development and Construction finishing first by a significant margin. Forty percent say that Development and Construction contributes A Lot to water pollution in Austin, but no other source was rated as contributing A Lot by more than twenty-four percent. Development and Construction was also named most frequently as the major source; no other source was named as the major one by more than twelve percent.

Each of the seven items tested was seen as a contributor to some extent; of the seven, none received fewer than forty-six percent A Lot and Some responses. Most respondents expressed some opinion about the contributions attributable to each source; the greatest uncertainty, as indicated by the proportion of No Opinions, was on the contributions of Septic Systems and Sewage Treatment Plants (15% and 16% No Opinion, respectively).

The question asking for the major source of water pollution produced an ordering of the seven sources that closely tracked the rankings of contributions. Following Development and Construction (24%) as major contributors were Urban Streets (12%), Industry (11%), Sewage Treatment Plants (7%), and Septic Systems (5%). Only two percent named Fertilizers and Pesticides or Animal Wastes as the major source. Another twenty percent named sources not on the seven-item list; of these, coded "Miscellaneous", most were non-specific terms such as "Runoff" rather than particular, identifiable sources.

Main Type of Water Pollution

> Which do you feel is the main type of water pollution in the Austin area -- bacteria, pesticides and other chemicals, sediment, algae and weeds, or something else?

Most Austinites selected either Bacteria (30%) or Algae and Weeds (22%) as the main type of water pollution in the Austin area, and one or the other of these was the predominant response in nearly every subgroup of respondents. The only exceptions were among those who have lived in Austin one year or less and those who cited either Industry or Lawns as the major source of water pollution; each of these groups named Pesticides and Other Chemicals as the main type.

Overall, eighteen percent named Pesticides and Other Chemicals as the main type of pollution here and nine percent chose Sediment. Another seven percent volunteered the response "All of These", only nine percent named Something Else, and twelve percent had No Opinion. Of course, the responses to this question reflect opinions that may or may not be informed by any specific knowledge of environmental conditions in this area.

Ratings of Austin Lakes and Creeks

> Next, I'm going to name some of the lakes and creeks in this area. For each one, please tell me whether you think it is very clean, acceptably clean, somewhat polluted, or very polluted. If you are not familiar with any of the ones I name, just tell me that. First,...

Every Austin lake or creek tested was rated as Somewhat or Very Polluted by more Austinites than rated them as Very or Acceptably Clean. Although the responses are not directly comparable because of the large proportions holding No Opinion about each lake or creek, the worst-rated would appear to be a virtual tie between Town Lake (61% Polluted and 25% Clean) and Shoal Creek (56% Polluted and 17% Clean). Lake Austin is the cleanest rated in this series with thirty-three percent on the Clean side and forty-six percent Polluted. The unadjusted figures are reported in Table IIIa below.

Table IIIa. Ratings of Austin Lakes and Creeks.
(All Respondents)

	VERY CLEAN	ACCEPTABLY CLEAN	SOMEWHAT POLLUTED	VERY POLLUTED	NOT FAMILIAR
Lake Austin	4%	29%	38%	8%	21%
Onion Creek	3%	12%	21%	10%	54%
Bull Creek	2%	9%	21%	10%	59%
Creeks in your neighborhood	4%	18%	30%	14%	32%
Barton Creek	3%	18%	39%	16%	25%
Town Lake	4%	21%	40%	21%	14%
Shoal Creek	2%	15%	40%	16%	29%

In the ratings of Creeks in Your Neighborhood, a balance of Polluted over Clean responses was recorded for every geographic area and watershed area included in the analysis.

In Table IIIb, the ratings of Austin lakes and creeks are shown for those respondents who have opinions about each. These adjusted figures offer a different perspective on the cleanliness ratings. Lake Austin is still the least polluted of the set, but Barton Creek and Bull Creek receive ratings as bad as any in the series. The smallest majority on the polluted side of the scale for any of the seven is Lake Austin with fifty-eight percent; each of the others is rated as polluted by at least two-thirds of those with opinions.

Table IIIb. Ratings of Austin Lakes and Creeks.
(All Respondents with Opinions)

	VERY CLEAN	ACCEPTABLY CLEAN	SOMEWHAT POLLUTED	VERY POLLUTED
Lake Austin	5%	37%	48%	10%
Creeks in your neighborhood	6%	27%	45%	21%
Onion Creek	7%	26%	46%	21%
Town Lake	5%	24%	47%	24%
Barton Creek	4%	24%	52%	21%
Bull Creek	4%	21%	50%	25%
Shoal Creek	2%	21%	55%	22%

C. RESPONSIBILITY

Best Method of Controlling Water Pollution

> Which of these methods do you feel would be most effective in controlling water pollution -- legal restrictions, voluntary compliance, tax and monetary incentives, or something else?

By substantial margins, and in every subgroup of respondents, Austinites feel that Legal Restrictions would be most effective in controlling water pollution. Forty-seven percent named Legal Restrictions -- more than named Voluntary Compliance (17%) and Tax and Monetary Incentives (18%) combined. Another five percent said All of These, four percent chose Something Else, and eleven percent had No Opinion. Although there were some variations in the second and third positions among different groups, the proportion choosing Legal Restrictions outweighed the other choices combined in nearly every group.

Willingness to Pay for Clean-up

> Would you be willing to pay a fee of fifty cents to a dollar a month to the City to help improve Austin's water quality?
>
> (IF NO OR DON'T KNOW:) Would you be willing to support other methods to finance water quality improvements?

Austinites indicate a general willingness to support improved water quality through fees to the City in the amounts tested. Just under two-thirds (66%) say that they are willing to pay fifty cents to a dollar a month, and only eighteen percent are not. Another fourteen percent were not willing to commit themselves without qualifications, and three percent Don't Know. Willingness to pay is greater among younger respondents than older, and among more recent arrivals to the Austin area than longer-term residents, but is otherwise fairly uniform across the range of subgroups.

Those who were unwilling to pay, or who did not know whether they would be willing, were asked whether they would support other methods of financing water quality improvements. Another eight percent said they would be willing to support "other methods", and three percent said that they might be supportive. Given the vague nature of the alternative, no specific interpretation can be assigned to these results beyond a general lack of opposition to public efforts in this area.

Clean-up Responsibility

> I'm going to name three different sources of urban storm-water runoff pollution. For each one, I'd like you to tell me which method of financing the costs of clean-up you feel that Austin should use -- share the costs among all utility users, assess the costs against those responsible -- even if the pollution is not intentional, divide the costs between these two groups, or some other method. First,...

Austinites distinguish clearly the responsibility for clean-up in the three cases tested in this series. In the case of Development, seventy-two percent feel that those who cause the problem should pay, only seven percent would place the burden on all utility users, and thirteen percent would prefer to see costs divided between the two groups. There is a more even distribution among the options in the case of Septic Systems, with twelve percent assigning the burden to utility users and nineteen percent wanting the costs divided; still, a majority (59%) prefer for those responsible to pay. The responsibility shifts for the case of Urban Streets. For the latter, forty-one percent would spread the costs among utility users and thirty-four percent would assign at least a portion of the costs to the general public; only fourteen percent would assign the costs to individuals. Only a small number of respondents suggested Other arrangements, and nine out of ten had opinions on these questions.

Table IV. Clean-Up Responsibility.
(All Respondents)

	UTILITY USERS PAY	POLLUTERS PAY	DIVIDE COSTS	OTHER	NO OPINION
Septic systems	12%	59%	19%	2%	7%
Development	7%	72%	13%	2%	6%
Urban Streets	41%	14%	34%	4%	7%

D. USAGE

Use of Austin's Lakes and Creeks

> How much do you use Austin's lakes and creeks for recreation -- a lot, some, just a little, or not at all?
>
> (IF USES LAKES/CREEKS:) What is your main recreational activity on the lakes and creeks?
>
> (IF USES LAKES/CREEKS:) And which of Austin's lakes or creeks do you use for recreation most often?

Responses to this series of questions indicate both widespread and diverse use of Austin's lakes and creeks by the citizenry. Twenty-one percent use the lakes A Lot, twenty-five percent Some, twenty-six percent Just A Little, and only twenty-eight percent Not At All. There are dramatic variations in use by age groups, with the proportion in the Not At All category ranging from a low of eight percent among eighteen to twenty-four year olds to a high of seventy percent among those age sixty-five and older. The lakes are used by a larger proportion of men than of women, and by more Anglo respondents than minorities.

The main recreational activity of lake and creek users is Swimming (36%), followed by Boating and Sailing (20%), Fishing (12%), Sunning and Picnics (11%), and Skiing (8%); seven percent named a variety of other activities.

Lake Travis is the most popular of the local water bodies for all users and for those whose main activities are Swimming, Boating or Sailing, and Fishing. Twenty-eight percent of the full sample use Lake Travis most often, twenty-one percent use Lake Austin most, twelve percent use Town Lake most often, eleven percent use Barton Springs most, and seven percent cited Barton Creek. Only one percent named Shoal Creek and eight percent named others as their most frequent recreational site.

Among those whose main recreational activity is Swimming, thirty-nine percent named Lake Travis, twenty-six percent Barton Springs, and twenty-three percent Lake Austin. Among the Boaters, forty-eight percent named Lake Travis, thirty-eight percent Lake Austin, and sixteen percent Town Lake. Fishers cited the same three in the same order (45%, 28%, and 23%, respectively), and twenty-three percent named Other favorite Fishing haunts. Finally, those whose main recreational activities are shore-bound Picnicing and Sunning named Town Lake as their first choice with thirty-three percent, while twenty-seven percent named Lake Travis and twenty-four percent Lake Austin. The figures in this paragraph are from Appendix III to this report.

COMPUTER TABULATIONS

OPINION ANALYSTS, INC.
AUSTIN, TEXAS

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30. How much do you use Austin's lakes and creeks for recreation -- a lot, some, just a little, or not at all?

A LOT----------1
SOME----------2
JUST A LITTLE----------3
NOT AT ALL----------4
DON'T KNOW----------5

31. (IF USES LAKES/CREEKS, ASK:) What is your main recreational activity on the lakes and creeks?

(CIRCLE EACH MENTIONED)

SWIMMING----------1
BOATING/SAILING----------2
FISHING----------3
SKIING----------4
SUNNING/PICNICS----------5
OTHER----------6

32. (IF USES LAKES/CREEKS, ASK:) And which of Austin's lakes or creeks do you use for recreation most often?

LAKE AUSTIN----------1
LAKE TRAVIS----------2
BARTON SPRINGS----------3
SHOAL CREEK----------4
TOWN LAKE----------5
BARTON CREEK----------6
OTHER----------7

33. Finally, in order to help us analyze the results of our survey, I need to ask a couple of questions about yourself. First, how many years have you lived in the Austin area?

YEARS IN AUSTIN AREA:_____
(IF LESS THAN ONE, ENTER 1)

34. What year were you born?

LAST TWO DIGITS OF YEAR:_____

35. How much formal education have you completed?

LESS THAN HIGH SCHOOL----------1
HIGH SCHOOL GRADUATE----------2
VOC/TECH SCHOOL----------3
SOME COLLEGE----------4
COLLEGE GRAD----------5
REFUSED/NO ANSWER----------6

36. Do you mind saying in which of the following broad ranges your total household income falls? Please stop me when I reach your income category: Under 5 thousand dollars, 5 to 10 thousand dollars, 10 to 15 thousand dollars, 15 to 20 thousand dollars, 20 to 25 thousand dollars, 25 to 30 thousand dollars, 30 to 35 thousand dollars, 35 to 40 thousand dollars, 40 to 45 thousand dollars, 45 to 50 thousand dollars, or over 50 thousand dollars.

UNDER $5000----------1
$5,000 TO $10,000----------2
$10,000 to $15,000----------3
$15,000 to $20,000----------4
$20,000 to $25,000----------5
$25,000 to $30,000----------6
$30,000 to $35,000----------7
$35,000 to $40,000----------8
$40,000 to $45,000----------9
$45,000 to $50,000----------10
OVER $50,000----------11
DON'T KNOW----------12
REFUSED TO SAY----------13

37. Finally, in order to assure that our survey includes all groups fairly, I need to ask your race or ethnic background.

WHITE/ANGLO----------1
BLACK/NEGRO----------2
MEXICAN-AMERICAN----------3
OTHER----------4
REFUSED TO SAY----------5

That's the end of our survey, but may I check that I dialed the right number? I have..... (READ NUMBER DIALED)

ENTER NUMBER REACHED:_____

And may I ask your first name only, in case my supervisor has to validate this interview?

FIRST NAME:_____

Thank you for helping with our survey. Have a nice (day/evening).

. . . . . .

(COMPLETE DATE AND TIMES ON FRONT)

Project #2203
Interviewer:_____DATE:__/__BEGINNING TIME:__:__ENDING TIME:__:__

Hello, I'm _(YOUR NAME)_, with Opinion Analysts here in Austin. We're taking an opinion poll of people in Austin and your telephone number has been selected at random to be in our survey. (Since most of our respondents are women, I need to interview the man-of-the-house, if he's available).

A. NOTE RESPONDENT'S PRECINCT NUMBER FROM SAMPLE SHEET. Precinct # _____

B. NOTE RESPONDENT'S SEX: MALE----------1
FEMALE----------2

I'm going to name some environmental areas. For each one, please tell me whether you think there is a serious problem in that area, somewhat of a problem, or not much of a problem here in Austin. First,...

(ROTATE Q1 - Q7)	SERIOUS PROBLEM	SOMEWHAT PROBLEM	NOT MUCH PROBLEM	NO OPINION
1. Industrial waste disposal	1	2	3	4
2. Surface water pollution	1	2	3	4
3. Air pollution	1	2	3	4
4. Groundwater pollution in aquifers	1	2	3	4
5. Litter	1	2	3	4
6. Transportation	1	2	3	4
7. Noise pollution	1	2	3	4

Next, I'm going to mention some things that may be sources of water pollution. For each one, please tell me whether you think that source contributes a lot, some, just a little, or nothing at all to water pollution in the Austin area. First,...

(ROTATE Q8 - Q14)	A LOT	SOME	JUST A LITTLE	NOTHING AT ALL	NO OPINION
8. Industry	1	2	3	4	5
9. Septic systems	1	2	3	4	5
10. Development and construction	1	2	3	4	5
11. Sewage treatment plants	1	2	3	4	5
12. Urban streets	1	2	3	4	5
13. Fertilizers and pesticides that people use on their yards	1	2	3	4	5
14. Animal wastes	1	2	3	4	5

15. What, in your opinion, is the major source of water pollution in the Austin area?

WRITE IN OTHER:_____

_____

INDUSTRY----------1
SEPTIC SYSTEMS----------2
DEVELOPMENT & CONSTRUCTION------3
SEWAGE TREATMENT PLANTS----------4
URBAN STREETS----------5
FERTILIZERS/PESTICIDES----------6
ANIMAL WASTES----------7
OTHER (WRITE IN)----------8
DON'T KNOW/NO OPINION----------9

7/203/2

Next, I'm going to name some of the lakes and creeks in this area. For each one, please tell me whether you think it is very clean, acceptably clean, somewhat polluted, or very polluted. If you are not familiar with any of the ones I name, just tell me that. First,...

(ROTATE Q16 - Q22)	VERY CLEAN	ACCEPTABLY CLEAN	SOMEWHAT POLLUTED	VERY POLLUTED	NOT FAMILIAR
16. Lake Austin	1	2	3	4	5
17. Shoal Creek	1	2	3	4	5
18. Town Lake	1	2	3	4	5
19. Barton Creek	1	2	3	4	5
20. Bull Creek	1	2	3	4	5
21. Onion Creek	1	2	3	4	5
22. Creeks in your neighborhood	1	2	3	4	5

23. Which do you feel is the main type of water pollution in the Austin area -- bacteria, pesticides and other chemicals, sediment, algae and weeds, or something else?

OTHER: _____

BACTERIA----------1
PESTICIDES/CHEMICALS----------2
SEDIMENT----------3
ALGAE/WEEDS----------4
ALL OF THESE (VOLUNTEERED)------5
OTHER (WRITE IN)----------6
DON'T KNOW/NO OPINION----------7

24. Which of these methods do you feel would be most effective in controlling water pollution -- legal restrictions, voluntary compliance, tax and monetary incentives, or something else?

OTHER: _____

LEGAL RESTRICTIONS----------1
VOLUNTARY COMPLIANCE----------2
TAX/MONETARY INCENTIVES---------3
ALL OF THESE (VOLUNTEERED)------4
OTHER (WRITE IN)----------5
DON'T KNOW/NO OPINION----------6

25. Would you be willing to pay a fee of 50 cents to a dollar a month to the City to help improve Austin's water quality?

YES, WILLING----------1
PRO-CON/DEPENDS/MAYBE----------2
NO--------(ASK Q26)----------3
DON'T KNOW---(ASK Q26)----------4

26. Would you be willing to support other methods to finance water quality improvements?

YES, WILLING----------1
PRO-CON/DEPENDS/MAYBE----------2
NO----------3
DON'T KNOW----------4

I'm going to name three different sources of urban stormwater runoff pollution. For each one, I'd like you to tell me which method of financing the costs of clean-up you feel that Austin should use -- share the costs among all the utility users, assess the costs against those responsible -- even if the pollution is not intentional, divide the costs between these two groups, or some other method. First,...

	UTILITY USERS PAY	POLLUTERS PAY	DIVIDE COSTS	OTHER	NO OPINION
27. Septic systems	1	2	3	4	5
28. Development	1	2	3	4	5
29. Urban streets	1	2	3	4	5

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